

## **REMARKS**

Applicants submit this Reply in response to the Office Action mailed June 2, 2010. Prior to this response, claims 26-50 were pending.

The pending Office Action contains one objection and six rejections. In particular, the Examiner objected to claims 37 and 39 because of informalities; rejected claims 26-28, 31-33, 40, and 46-50 as allegedly being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 6,688,127 ("*Laubacher*") in view of U.S. Patent No. 6,622,028 ("*Abdelmonem-028*"); rejected claims 29, 30, and 34-36 under 35 U.S.C. § 103(a) as being unpatentable over *Laubacher* in view of *Abdelmonem-028* and further in view of U.S. Patent Application Publication No. 2002/0151331 ("*Abdelmonem-331*"); rejected claims 37-39 under 35 U.S.C. § 103(a) as being unpatentable over *Laubacher* in view of *Abdelmonem-028* and further in view of U.S. Patent Application Publication No. 2003/0227350 ("*Abdelmonem-350*"); rejected claims 41 and 42 under 35 U.S.C. § 103(a) as being unpatentable over *Laubacher* in view of *Abdelmonem-028* and further in view of U.S. Patent Application Publication No. 2005/0164888 ("*Hey-Shipton*"); rejected claims 43 and 44 under 35 U.S.C. § 103(a) as being unpatentable over *Laubacher* in view of *Abdelmonem-028* and further in view of U.S. Patent No. 6,263,215 ("*Patton*"); and rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over *Laubacher* in view of *Abdelmonem-028* and *Patton* and further in view of U.S. Patent No. 6,011,524 ("*Jervis*").

In this Reply, Applicant has canceled claims 27 and 46-49 without prejudice or disclaimer and amended claims 26, 30, 37, 39, and 50. Consequently, claims 26, 28-

45, and 50 are currently pending, of which claims 26 and 50 are independent. Applicant otherwise respectfully traverses the pending rejections.

**Objection to Claims 37 and 39**

In response to the objection to claims 37 and 39 for containing typographical errors, Applicant has amended those claims to change “that” to “than,” as kindly suggested by the Examiner.

**Rejection of Claims 26-28, 31-33, 40, and 46-50 Under 35 U.S.C. § 103(a)**

Claims 26-28, 31-33, 40, and 46-50 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over *Laubacher* in view of *Abdelmonem-028*. Claims 26 and 50 are the only independent claims included in this rejection. Although Applicant disagrees with the merits of the rejection, Applicant has amended claims 26 and 50 to advance prosecution. Applicant respectfully traverses the obviousness rejection because *Laubacher* and *Abdelmonem-028* fail to disclose or suggest all of the subject matter recited in those independent claims.

As explained in Applicant’s specification, the present application in its exemplary embodiments addresses improvements in a cryogenic receiver front-end having primary and secondary receiving branches. Exemplary embodiments in the specification considerably reduce the circuitry complexity of a receiver front-end while maintaining performance even when cooling of superconducting components fails. See, e.g., Spec. at 2-3.

Amended independent claim 26 addresses similar subject matter and is patentably distinguishable from the cited references in that it recites,

A receiver front-end for use in a transceiver station of a wireless communication network, said transceiver station being associated with an antenna assembly comprising a primary and at least a secondary antenna, said receiver front-end being adapted for insertion between said antenna assembly and signal processing sections of said transceiver station, said receiver front-end comprising a primary and at least a secondary receiving branch, said primary receiving branch being adapted for coupling to said primary antenna and to said signal processing sections of said transceiver station and said secondary receiving branch being adapted for coupling to said secondary antenna and to said signal processing sections, **said secondary receiving branch comprising at least one superconducting component, wherein said primary receiving branch consists of non-superconducting components including at least one non-superconducting filter.**

(Emphasis added). Amended independent claim 50, while different in scope, recites similar subject matter. The applied references fail to disclose these features.

*Laubacher* discloses cryogenic devices based on superconducting elements, low thermal transmission interconnects, and low dissipated power semiconductors. According to the Office Action, *Laubacher* fails to disclose non-superconducting components (Office Action at 3), but the Office Action cites to *Abdelmonem-028* to allegedly fill that void. The Office Action cites *Abdelmonem-028* for teaching “the primary receiving branch comprising the non-superconducting components, comprising at least a non-superconducting filter.” *Id.*

Neither *Laubacher* nor *Abdelmonem-028* anticipates or renders obvious the subject matter recited in the amended independent claims because neither of these references teaches or suggests a receiver front-end for use in a transceiver station of a wireless communication network, “said secondary receiving branch comprising at least one superconducting component, wherein said primary receiving branch consists of

non-superconducting components including at least one non-superconducting filter.” As acknowledged by the Examiner, *Laubacher* fails to disclose non-superconducting components. *Abdelmonem-028* does not disclose or suggest a primary receiving branch consisting of non-superconducting components. Quite the opposite, *Abdelmonem-028* discloses a receiving branch of superconducting components. In the system of *Abdelmonem-028*, a cryostat with a special bypass path switches between superconducting components in a cold region and a conventional non-superconducting filter in a warm area. See *Abdelmonem-028* at Abstract. According to *Abdelmonem-028*, by switching between the cryogenic path and the conventional filter in the warm area, the special bypass can ensure that the receiver front-end remains in operation in case of a failure, and the bypass can be used to adjust respective gains of the two paths. *Id.* at 5:19-22, 8:41-48. In contrast, with the subject matter of Applicant’s currently amended claims, a primary receiving branch consisting of non-superconducting components remains conductive during a fault in the cooling of a superconducting filter in a secondary receiving branch. See, e.g., Spec. at 3. Such an arrangement does not appear to be taught or implied by the cited references.

Accordingly, the Office Action fails to establish that claims 26 and 50 are *prima facie* obvious based on *Laubacher* and *Abdelmonem-028*. Further, claims 27, 28, 31-33, and 40 (claims 46-49 having been canceled) depend, either directly or indirectly, from independent claim 26 and should be allowable for at least the same reasons discussed above that claim 26 is allowable. Therefore, Applicant respectfully requests reconsideration and withdrawal of the Section 103(a) rejection of claims 26-28, 31-33, 40, and 50 based on *Laubacher* in view of *Abdelmonem-028*.

**Rejections of Claims 29, 30, 34-39, and 41-45 Under 35 U.S.C. § 103(a)**

In the Office Action, dependent claims 29, 30, 34-39, and 41-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Laubacher* in view of *Abdelmonem-028* as applied to independent claim 26 and further in view of one or more of *Abdelmonem-331*, *Abdelmonem-350*, *Hey-Shipton*, *Patton*, and *Jervis*. Claims 29, 30, 34-39, and 41-45 depend, either directly or indirectly from amended independent claim 26, which is allowable over *Laubacher* in view of *Abdelmonem-028* for at least the reasons outlined above. *Abdelmonem-331*, *Abdelmonem-350*, *Hey-Shipton*, *Patton*, and *Jervis*, regardless of whether they are viewed individually or as a whole, do not remedy the deficiencies of *Laubacher* in view of *Abdelmonem-028* outlined above, nor does the Examiner so contend. They do not appear to disclose or render obvious, at least, a receiver front-end for use in a transceiver station of a wireless communication network, "said secondary receiving branch comprising at least one superconducting component, wherein said primary receiving branch consists of non-superconducting components including at least one non-superconducting filter," as recited in Applicant's amended independent claim 26. Therefore, the 35 U.S.C. § 103(a) rejections of dependent claims 29, 30, 34-39, and 41-45 cannot be maintained and should be withdrawn.

**Conclusion**

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

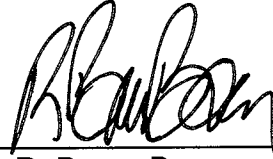
Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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Dated: October 27, 2010

By: \_\_\_\_\_



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